What is claimed is:

1. An alternator for vehicles comprising a rotary shaft of a rotor which is rotably supported by a pair of bearings,..each comprising a fixed ring and a rotary ring, on a frame having a stator, and a drive pulley which is mounted on one end of the rotary shaft projecting outward from the frame, wherein the alternator comprises at least the bearing directed toward the pulley comprising a fixed ring comprising a steel containing up to about 10% of residual austenite.

2. An alternator as defined in claim 1 wherein said steel containing limited proportion of austenite has been made by subjecting steel having a higher austenite content to a sub-zero treatment.

3. An alternator as defined in claim 1 wherein said steel containing limited proportion of austenite has been made by subjecting steel having a higher austenite content to tempering at a temperature of 250° to 380° C.

4. An alternator as defined in claim 1 wherein said steel containing limited proportion of austenite has been made by subjecting steel having a higher austenite content to a sub-zero treatment and a subsequent tempering treatment at a temperature of 170° to 230° C.

5. An alternator as defined in claim 1 wherein said steel has been subjected to carburization hardening.

6. An alternator as defined in claim 1 wherein the amount of residual austenite is up to 6%.

* * * * *

7. A process for producing a fixed ring of an antifriction bearing subjected to an environment involving vibration or impact, said fixed ring being made of a steel material having an amount of austenite therein, said process comprising the steps of:

(a) subjecting the steel material of said fixed ring to a hardening heating treatment to reduce the amount of austenite in the steel material to a residual amount, and

(b) following said step (a), subjecting the steel material of said fixed ring to a tempering treatment to reduce the residual austenite content in said fixed ring to an amount up to 8%, so as to prevent plastic deformation of a raceway in said fixed ring caused by decomposition of said residual austenite under said raceway.

8. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said step (b) is carried out at a temperature of 250°C to 380° C.

9. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said step (b), the residual austenite content is reduced to an amount up to 6%.

10. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said step (b), the residual austenite content is reduced to an amount up to 3%.

11. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said material comprises SAE 5120.

12. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said material comprises JIS•SUJ2.

13. A process for producing a fixed ring of an antifriction bearing subjected to an environment involving vibration or impact, said fixed ring being made of a steel material having an amount of austenite therein, said process comprising the steps of:

(a) subjecting the steel material of said fixed ring to a hardening heating treatment to reduce the amount of austenite in the steel material to a residual amount;

(b) following said step (a), subjecting the steel material of said fixed ring to a sub zero treatment to further reduce the residual amount of austenite in the steel material; and

(c) following said step (b), subjecting the steel material of said fixed ring to a tempering treatment to reduce the residual austenite content in said fixed ring to an amount up to 8%, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway.

14. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said step (c), the residual austenite content is reduced to an amount up to 6%.

15. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said step (c), the residual austenite content is reduced to an amount up to 3%.

16. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said material comprises SAE 5120.

17. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said material comprises JIS•SUJ2.

18. An antifriction bearing lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring comprising a steel material containing up to 8% residual austenite.

19. The antifriction bearing as defined in claim 18, wherein the amount of residual austenite in said fixed ring is up to 6%.

20. The antifriction bearing as defined in claim 18, wherein the amount of residual austenite in said fixed ring is up to 3%.

21. The antifriction bearing as defined in claim 18, wherein the steel material of said fixed ring comprises SAE 5120.

22. The antifriction bearing as defined in claim 18, wherein the steel material of said fixed ring comprises JIS•SUJ2.

23. A antifriction bearing device comprising:

an inner member and an outer member rotatable relative to each other;

an antifriction bearing disposed between said inner member and said outer member, said antifriction bearing being lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring attached to said fixed member, said fixed ring comprising a steel material containing up to 8% residual austenite, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway and reduce rolling friction so as to reduce temperature rise inside the bearing;

a fixed member; and

a rotational member supported by said fixed member via said antifriction bearing.

24. The antifriction bearing device of claim 24, wherein said antifriction bearing is subjected to an environment involving by vibration or impact.

25. An antifriction bearing device comprising:

a fixed housing;

separately disposed antifriction bearings, each of said antifriction bearings being lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring attached to a fixed member, said fixed ring comprising a steel material containing up to 8% residual austenite, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway and reduce

rolling friction so as to reduce temperature rise inside the bearing; and

a rotary shafted supported by said fixed housing via said antifriction bearings.

26. An antifriction bearing device comprising:

a fixed housing;

separately disposed antifriction bearings, each of said antifriction bearings being subjected to an environment involving vibration or impact, each of said antifriction bearings being lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring attached to a fixed member;

a rotary shafted supported by said fixed housing via said antifriction bearings; and

a driven body attached to an end of said rotary shaft;

wherein one of said antifriction bearings is on a side of said driven body and has a fixed ring attached to a fixed member and comprising a steel material containing up to 8% residual austenite, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway and reduce rolling friction so as to reduce temperature rise inside the bearing.